

## A CASE OF LAMINECTOMY FOR DEPRESSED FRACTURE OF THE SPINE.<sup>1</sup>

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IN view of the interest which is now taken in the surgery of the spinal cord, it seems worth while to report this case, which was operated on over twenty-five years ago at the Massachusetts General Hospital, but which has never been published. The specimen, which came into my possession recently, was prepared by Professor Thomas Dwight, who was the house officer at the time, and was in charge of the case. The account given below is made up partly from the hospital records and partly from Dr. Dwight's recollections.

J. S., seventeen years of age, a laborer, entered the hospital March 26, 1867, having been struck by a heavy box of merchandise, which had fallen from the fifth story of a building. The blow threw him forward so that he struck his nose against a neighboring box, fracturing the nose and bruising the face.

The patient was a tall, finely-formed young man, apparently very healthy, and an excellent patient. On examination, a marked projection was observed between the scapulæ, with considerable swelling at about the sixth dorsal vertebra. Crepitus was detected over the spinous processes in the immediate neighborhood of the swelling in the back. Pulse 60 and weak; body cold; both pupils largely dilated, the right one being rolled upward and outward. The patient laid in bed in a semi-comatose condition. There was no motion of the legs; priapism was noticed in the afternoon of the first day. There was some fever then, and the pulse was 120 and weak.

The record states that on the following day it was evident that there was no motion or sensation in his legs.

On the third day the entry is as follows: "Paralysis very probable; abdomen tympanitic. March 31, fourth day, mind is clear."

<sup>1</sup> Operated upon in 1867 by the late Dr. J. Mason Warren.

The urine was drawn daily with a soft catheter, great care being used to avoid any injury to the bladder.

The operation was performed on March 31, the fourth day, by Dr. J. Mason Warren. It was done as a desperate measure, without great hope of success, Dr. Dwight having been repeatedly charged by him not to urge it upon the friends of the patient.

An incision eight inches long was made in the median line of the back in the dorsal region over the projecting spines of the fifth to seventh dorsal vertebræ, inclusive. These spines were fractured, and were detached with forceps. The laminae of the sixth dorsal vertebræ were fractured with the transverse process and depressed. This fragment was removed together with the fragment of the inferior articular process of the vertebra above. On exposing the dura mater it was found to be punctured. The dura mater was laid open, and a clot as large as a ten cent piece, but thicker, was found on the cord and was left undisturbed. There appeared to be no depression in the cord. The membranes showed no signs of inflammation. There was but little hæmorrhage during the operation. The edges of the wound were brought together by sutures, and a water dressing was applied. There was considerable sero-sanguinolent oozing from the wound during the day, which was checked by ice water.

The improvement which followed the operation was unmistakable. The same evening the feet were much warmer. Pulse, 100.

On April 1, the second day, the patient complained of some pain in the bladder. In the evening reflex movements were observed on tickling the feet. Firm pressure on the abdomen was noticed by the patient.

On the third day reflex action was found to be good below the seat of fracture. Sensation was noticed in the thighs. Several ecchymoses were found for the first time over the right iliac fossa. Involuntary discharges from the rectum were recorded on this day.

The patient continued to improve slightly until a day or two before his death, when a chill occurred followed by fever, after which he sank rapidly, and died on April 8, the twelfth day from the accident and the eighth day from the time of operation.

*Autopsy.*—Head: no fracture of vertex or base; brain normal. Thorax: nothing abnormal.

Fracture of pelvis one inch to the right of the symphysis pubis. The spine, from the third to the tenth dorsal vertebræ, inclusive, was removed (Figs. 1 and 2). The spinous process and left lamina and

FIG. 1.



FIG. 1.—POSTERIOR VIEW.

FIG. 2.



FIG. 2.—ANTERIOR VIEW.

Dr. Warren's case of Fracture of Spine and Laminectomy. Specimen secured by autopsy.

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left transverse process of the fifth and most of the spinous processes of the fourth and sixth dorsal vertebræ had been removed by operation.

The left laminæ of the fifth and seventh dorsal vertebræ were completely fractured at points just inside of the origin of the transverse processes.

An oblique comminuted fracture of the bodies of the vertebræ commenced in the lower posterior part of the body of the fifth vertebra, and extended downward and forward through the sixth into the seventh vertebra. The spine was also twisted on itself as if the fifth vertebra had been bent forward and turned a little to the right on the sixth, whereby some distortion of the canal was caused.

The spinal cord, though rather twisted and pressed upon, showed to the naked eye no unequivocal signs of laceration.

A firm coagulum in the shape of an irregular sphere of perhaps half-an-inch in diameter lay along the posterior aspect of the cord, firmly attached to the membranes opposite the sixth vertebra.

The urine, which had to be drawn after the operation, became thick and cloudy with mucus and pus at the time of the chill, and at the autopsy acute inflammation of the bladder was found, and this was regarded at the time as the cause of death.

The specimen from which the accompanying illustrations are taken is deposited in the Warren Anatomical Museum.